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From: Hands Across the River Coalition, Inc.
Sent: Sun 4/5/2015 7:41:42 PM
Subject: Spent Fuel Pools

Dear Ms. O'Neil,

YOUR RESPONSIBILITIES:

1. We are of the impression that you are main contact for the public for questions regarding EPA issues in the Greater Boston Region, hence our question. Can you please reconfirm your role and geographic scope of responsibilities.

BACKGROUND:

2. As you may be peripherally aware, there are 4 GE reactors operating in an arc around Boston that are of the same design as the nuclear reactors that blew up in Japan. The leaking radiation is now destroying the Pacific Ocean. Are you aware of these two facts?

3. Part of the problem at Fukushima were the Spent Fuel Pools at four reactors which had been holding the highly radioactive and extremely dangerous "Spent Fuel" in closely monitored freshwater tanks on the upper floors of the reactor buildings, with reports stating that these were on 140 feet above ground level, on the 4th or 5th floor of the reactor structures; this is well above ground level.

4. The Spent Fuel which is held in fuel rods must be kept submerged in water for 10-20 years, prior to it cooling sufficiently for it to be moved into "Dry Cask Storage."

5. There is not any permanent storage for the "spent fuel" yet, particularly in the USA, as the Yucca Mountain Storage Facility was halted by the present administration due to pressure from former Senate Majority Leader Harry Reid.

6. Around Boston there are FOUR Fukushima style reactors with Spent Fuel Pool (SFP) storage similar to FUKUSHIMA is held 4/5 stories above the ground, requiring constant flow of highly monitored fresh water. Were this flow ever to stop and the Spent Fuel Pool (SFP) storage water drained, the waste rods would catch on fire and spread nuclear poison throughout the region in a manner similar to Chernobyl and Fukushima itself.

7. The present reactors consist of the Vermont Yankee Station just north of the MA border on the Connecticut River, Millstone Station near New London CT, Seabrook NH, and Pilgrim Station at Plymouth MA.

8. Millstone has the most radioactive waste of any plant in the country, and Vermont Yankee is very high on the list (~#9). Further, Millstone, Vermont Yankee and Pilgrim Station individually have more waste stored in their Spent Fuel Pools than the entire 6 reactor site at Fukushima.

9. Reliable reports from Nuclear scientists & engineers state there the SPF around the country are near capacity, and that the temporary storage space of the Spent Fuel Pool (SFP) will soon be reached.

10. Vermont Yankee is now shut (31 Dec 2014) and the highly radioactive and dangerous spent fuel in its pool 140 feet above the ground in the reactor building must be stored and monitored, for the most part for 10-20 years, before the fuel most recently produced can be moved to "Dry Cask Storage". As with Fukushima, no one is comfortable with a Spent Fuel Pool 140 feet or five stories off the ground and filled with enough radiation to destroy the Eastern Half of the United States.

QUESTIONS:

Q: 10. Who at the EPA in the Boston region has responsibility for monitoring this situation, and making plans for the safe storage of the spent fuel that is now on site in the Reactor SFPs?

Q: 11. With whom is the EPA interfacing at the Nuclear Regulatory Commission (NRC), the Dept of Energy (DOE), and the US Army Corp of Engineers (USACE) on this topic?

Q: 12. Which of the above bureaucracies has the primary responsibility for managing the SFPs and the Nuclear Waste that they contain?

Q: 13. What are the plans to handle the nuclear waste in the Spent Fuel Pools, now at capacity, which must be stored submerged in water for the next 10-20 years?

Q: 14. What are the specific plans for the Spent Fuel now in the shuttered Vermont Station reactor.

Q: 15. What are the fall back plans for the Spent Fuel should it need to be moved, possibly rapidly from the present Spent Fuel Pools?

REF:

<http://pbadupws.nrc.gov/docs/ML0900/ML090070329.pdf>

The Vermont Yankee spent fuel pool structure is an integral part of the reactor building, and was designed as a Seismic Category I structure, SSE=O.14g. It is situated at the south side of the reactor building, with the top of **the spent fuel pool located at the operating floor which is about 140 feet above the building foundation**. The spent fuel pool is twenty six feet wide in the north-south direction and forty feet wide in the east-west direction. It is normally filled with water to a depth of 35.75 feet above the bottom of the pool which is located at Elevation 306'-5"1.

http://www.masslive.com/news/index.ssf/2011/04/storage_of_spent_fuel_rods_at_new_england_nuclear_power_plants_generates_fear.html

The storage pool at Vermont Yankee Nuclear Power Station in Vernon, Vt., was originally licensed to hold 600 spent fuel assemblies. There are now 2,935 assemblies in the pool, or 932 metric tons of radioactive waste.

At **Millstone**, the pool at the Unit 3 reactor was originally licensed to hold 756 assemblies. It now holds 1,040 assemblies, or 449 metric tons of waste, and is licensed to handle up to 1,860 assemblies. Millstone's Unit 2 reactor was originally licensed to hold 677 spent fuel assemblies. It now holds 909 assemblies, or 304 metric tons, and is licensed to hold 1,346 assemblies.

The **Pilgrim Nuclear Power Generating Station** currently holds 2,918 fuel assemblies. Its original license allowed 880 fuel assemblies, according to NRC documents. The license was later updated to allow for 3,859 assemblies.

The spent fuel pool at **Seabrook Nuclear Power Station** in New Hampshire, the newest of New England plants - Seabrook came online in 1990 - was originally licensed to handle 1,236 fuel assemblies and now has 936 assemblies in its pool. There are also 192 fuel assemblies in dry cask storage.

New England's nuclear power plants, most of which were built in the 1970s, came online with a promise: the government would take the spent fuel rods that result from nuclear fission and safely store the waste at a national site. In 1982, Congress made that promise into law, and the national repository was scheduled to open in 1998.

That plan officially fell apart last year when the Obama administration, under considerable political pressure from opponents, canceled plans for a nuclear disposal facility in Yucca Mountain in Nevada, which was to be hollowed out to create a repository

Spent fuel pools were originally intended to be temporary storage and as a result were not given the same level of protection as reactors. As the volume of spent fuel grew over the years, scientists began warning the pools could be more dangerous than the reactor because they now held more radioactive material. Without a national storage site, plant operators, with the blessing of the Nuclear Regulatory Commission, packed more and more spent fuel rods into the pools.

"There used to be space between them. The assemblies were so far apart they could not go to critical mass. Then they took out the racks... That closer proximity, however, means rods could heat up much faster if there is a major loss of cooling water..."

A 2010 statement signed by 170 environmental and activist groups declared that “as the amount of waste generated has increased beyond the designed capacity, the pools have been reorganized so that the concentration of fuel in the pools is nearly the same as that in operating reactor cores.” “If water is lost from a densely packed pool as the result of an attack or an accident, cooling by ambient air would likely be insufficient to prevent a fire, resulting in the release of large quantities of radioactivity to the environment,” the statement continued.

In a 2002 report, Robert Alvarez, a former top official at the federal Department of Energy and a senior scholar at the Institute for Policy Studies, wrote in the Bulletin of Atomic Scientists that if a fire broke out **at the Millstone Reactor Unit 3 spent-fuel pool in Connecticut** it would result in a three-fold increase in background exposures [[» "What About The Spent Fuel?" – pdf](#)]. That would trigger the NRC’s evacuation requirement and could render about 29,000 square miles of land uninhabitable, severely affecting Connecticut, much of Long Island and even New York City.

“On average, **spent fuel ponds hold five to 10 times more long-lived radioactivity than a reactor core,**” Alvarez wrote in his report.

Please respond as soon as possible on the questions we've listed above. This is critical.

Thank you.

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Cordially,

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